746 Data File Format Definition

Subject: 746 Data Format
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The 746 program, 746SIG-B.EXE, generates two data files: .ALL and .AVG. Generation of the .AVG file is an operator selectable option. These files contain comments and data pertaining to a source scan.

Files are ASCII, space delimited, CR/LF terminated. The program runs under DOS, thus the 8.3 filename limitation applies.

Filenames: SYYMMDDA.ext

where S — The source being scanned:
- A - Ames 30 inch Sphere
- B - Boreas Hemisphere
- C - CHORS Sphere
- F - Flat Plate (any type)
- H - GSFC 48-in Hemisphere
- J - MISR Sphere at JPL or ASTER 1M Sphere at NEC
- K - MELCO 1M SWIR Sphere
- L - Standard Lamp (Halogen type, any model)
- M - Ames 20 inch Hemisphere
- R - SIS 18-in aperture Sphere
- S - GSFC 6-ft. Sphere
- T - GSFC 12-in Sphere
- X - Test scan

YY — Two digit year
MM — Two digit month
DD — Two digit day
A — An alphanumeric showing the chronological position of the file for that day, A indicates first scan, B indicates second, ...
ext — File contents indicator:
- ALL — Raw data file, containing all sampled data points for each wavelength
- AVG — Averaged data file, only the averaged raw data for each wavelength

Raw data (ALL) Format
There are two sections in this type of file: a five line header and the data.

Italics indicate variable information.

ALL Header, in order:

desg/*com* — Source designation and comments, variable length
System output [*units*] — Definition of data units. *units* can be Volts or Amps
Date: *YYMMDD* — Date of data collection
*s*nm to *e*nm *i*nm steps *n* samples
- *s* - Starting wavelength of scan, in nanometers
- *e* - Ending wavelength of scan, in nanometers
- *i* - Interval between sampled wavelengths, in nanometers
- *n* - Number of samples taken if noise limits are not exceeded. If the noise limits are exceeded, more samples are taken, up to the system maximum of 100 samples.

*t*C *rh*%RH *dist*cm dist *s*mm slits
- *t* - Temperature entered by technician, in °C
- *rh* - Relative Humidity entered by technician, in %
- *dist* - Distance between instrument and source, in cm
- *s* - Spectroradiometer slit size, in mm

ALL data:
There are as many data lines as there are sampled wavelengths. The data line has the following structure:

λ hh:mm:ss s_1 s_2 s_3 ... s_n s_{n+1} s_{n+2} s_m

where: λ sampled wavelength

hh:mm:ss	time at start of sampling
s_1	first sample
s_2	second sample
s_n	n^{th} sample
s_{n+1}	$n+1^{th}$ sample, taken only if noise limits are exceeded
s_{n+2}	$n+2^{th}$ sample, taken only if noise limits are exceeded
s_m	m^{th} sample, taken only if noise limits are exceeded. m_{max} is 100.

Sample ALL file:

Filename is L990326b.all

```
f463 blocked
System output [Volts]
Date:  990326
 800nm to 2400nm   20nm steps    5 samples
 24c  30%RH  50cm dist. 2.5mm slits
 800  17:15:40 5.000E-06 4.300E-06 3.000E-06 0.000E+00 1.200E-06 ... 4.500E-06
 820  17:15:52 2.800E-06 4.000E-06 5.200E-06 1.700E-06 4.000E-06 ... 9.000E-07
       ...
 2380  17:32:08 2.900E-06 5.500E-06 3.300E-06 2.200E-06 2.900E-06 ... 1.000E-05
 2400  17:32:19 1.200E-06 6.700E-06 5.000E-07 9.000E-07 4.400E-06 ... 4.000E-06
```

Averaged data (AVG) format
There are two sections in this type of file: a one line header and the data.

Italics indicate variable information.

AVG Header:
The averaged file header is a single line in the following format:

"*desg*/*com*","System output [*units*]",*YYMMDD*,*s*,*e*,*i*

where

desg/*com*	Source designation and comments, variable length
System output [*units*]	Definition of data units. *units* can be Volts or Amps
YYMMDD	Date of data collection
s	Starting wavelength of scan, in nanometers
e	Ending wavelength of scan, in nanometers
i	Interval between sampled wavelengths, in nanometers

AVG data:
There are as many data lines as there are sampled wavelengths. A data line is a single number representing the averaged data.

Sample AVG file:

Filename is L990326b.avg

```
"f463 blocked","System output [Volts]",990326,800,2400,20
 2.365000E-06
 2.615000E-06
 3.445000E-06
 3.635000E-06
       ...
 1.143500E-05
 1.042500E-05
 8.500000E-06
 7.855000E-06
```